

### AMENDMENTS TO THE CLAIMS

Please amend the claims as set forth in the following listing of claims, which will replace all prior versions, and listings, of claims in the present application.

#### Listing of Claims

1. (Currently Amended) A method of determining whether a subject has a ~~an~~ bone marrow derived stem cell (BMDC) dependent metaplasia, comprising detecting the presence of a mesenchymal stem cell (MSC) or MSC derived cell ~~BMDC's or BMDC derived cells~~ in a test sample from the subject, wherein the presence of the MSC or MSC derived cell ~~BMDC's or BMDC derived cells~~ is indicative that the subject is afflicted with BMDC dependent ~~an BMDC-dependent~~ metaplasia.

2. (Currently Amended) A method of determining whether a subject has a ~~an~~ bone marrow derived stem cell (BMDC) associated ~~BMDC-associated~~ cancer comprising detecting the presence of a mesenchymal stem cell (MSC) or MSC derived cell ~~BMDC's or BMDC-derived cells~~ in a test sample from the subject, wherein the presence of the MSC or MSC derived cell ~~BMDC's or BMDC derived cells~~ is indicative that the subject is afflicted with BMDC associated ~~an BMDC-associated~~ cancer.

3. (Currently Amended) A method of determining whether a subject has a higher than normal risk of developing a ~~an~~ bone marrow derived stem cell (BMDC) dependent ~~BMDC-dependent~~ metaplasia, comprising detecting the presence of a mesenchymal stem cell (MSC) or MSC derived cell ~~BMDC's or BMDC derived cells~~ in a test sample from the subject, wherein the presence of the MSC or MSC derived cell ~~BMDC's or BMDC derived cells~~ is indicative that the subject is at higher than normal risk of developing BMDC dependent ~~an BMDC-dependent~~ metaplasia.

4. (Currently Amended) A method of determining whether a subject has a higher than normal risk of developing a ~~an~~ bone marrow derived stem cell (BMDC) associated ~~BMDC-associated~~ cancer, comprising detecting the presence of a mesenchymal stem cell (MSC) or MSC derived cell ~~BMDC's or BMDC derived cells~~ in a test sample from the subject, wherein the presence of the MSC or MSC derived cell ~~BMDC's or BMDC derived cells~~ is indicative

that the subject is at higher than normal risk of developing BMDC associated ~~an BMDC-associated~~ cancer.

5.-12. (Canceled)

13. (Currently Amended) The method of claim ~~claims~~ 1, wherein the test sample is from epithelial tissue.

14. (Currently Amended) The method of claim ~~claims~~ 13, wherein the test sample is from the breast, uterus, ovarian, brain, endometrium, cervical, colon, esophagus, hepatic, kidney, mouth, prostate, liver, lung, skin or testicular epithelial tissues.

15. (Currently Amended) The method of claim ~~claims~~ 1 wherein the test sample is a body fluid sample.

16. (Currently Amended) The method of claim ~~claims~~ 1, wherein the presence level of the MSC or MSC derived cell ~~BMDC or BMDC-derived cells~~ is assessed by detecting the presence of a BMDC polypeptide in the test sample.

17. (Currently Amended) The method of claim 16, comprising contacting the sample with an antibody having specificity for a ~~an~~ BMDC polypeptide under conditions suitable for binding of the antibody to the BMDC polypeptide thereby resulting in the formation of a complex between the antibody and the BMDC polypeptide; and comparing the amount of the complex in the test sample with an amount of a complex in a control sample, wherein an elevation in the amount of the complex between the antibody and BMDC polypeptide in the test sample compared to the complex in the control sample is indicative of the presence of the MSC or MSC derived cell ~~BMDC or BMDC-derived cells~~ in the sample.

18. (Original) The method of claim 17, wherein the antibody is a polyclonal antibody.

19. (Original) The method of claim 17, wherein the antibody is a monoclonal antibody.

20. (Original) The method of claim 17, wherein the antibody is detectably labeled

21. (Original) The method of claim 17, wherein antibodies to one or more BMDC polypeptides are used.

22. (Currently Amended) The method of claim 17, wherein the BMDC polypeptide is selected from the group consisting of Flk-1, Sca-1, Thy-1, cytokeratin 19 ~~KRT1-19~~, TFF2, Patched, and CXCR4 ~~CXCL4~~.

23.-27. (Canceled)

28. (Currently Amended) The method of claim ~~claims~~ 3, wherein the BMDC associated ~~BMDC-associated~~ cancer is organ cancer.

29. (Currently Amended) The method of claims 1 or 2, wherein the BMDC dependent ~~BMDC-dependent~~ metaplasia or BMDC associated ~~BMDC-associated~~ cancer is associated by chronic inflammation.

30. (Original) The method of claim 29, wherein the chronic inflammation is caused by bacterial, viral or parasitic infection.

31. (Original) The method of claim 29, wherein the chronic inflammation is caused by exposure to a carcinogen.

32. (Original) The method of claim 29, wherein the cancer is selected from the group consisting of gastric adenocarcinoma, esophageal adenocarcinoma, hepatocellular carcinoma, colon cancer and lung cancer.

33. (Original) The method of claim 29, wherein the cancer is selected from the group consisting of breast cancer, pancreatic cancer or melanoma.

34.-36. (Canceled)